

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (original) A motor control apparatus comprising:

a motor having a rotor;

an encoder for producing a pulse signal in synchronism with rotation of the rotor of the motor that rotates a control object; and

control means for rotating the rotor to a target position by detecting a rotation position of the rotor on the basis of a count of the pulse signal counted by an encoder count by the encoder and sequentially switching a current supply phase of the motor,

wherein the control means corrects, in a period when a deceleration control is performed on the rotor, a phase lead of the current supply phase with respect to a rotation phase of the rotor in accordance with a rotation speed of the rotor.
2. (original) The motor control apparatus according to claim 1, wherein the control means corrects, in the period when the deceleration control is performed on the rotor, the phase lead of the current supply phase in such a direction that braking force acting on the rotor is weakened as the rotation speed of the rotor lowers.
3. (original) The motor control apparatus according to claim 1, wherein the control means corrects, in the period when the deceleration control is performed on the rotor, the

phase lead of the current supply phase taking into consideration, in addition to the rotation speed of the rotor, a rotation angle of the rotor from a present position to the target position.

4. (currently amended) A motor control apparatus comprising:
a motor having a rotor;
an encoder for producing a pulse signal in synchronism with rotation of the rotor of the
motor that rotates a control object; and
control means for rotating the rotor to a target position by detecting a rotation position of
the rotor on the basis of a count of the pulse signal counted by an encoder count by the encoder
and sequentially switching a current supply phase of the motor,
wherein the control means corrects, in a period when a deceleration control is performed
on the rotor, a phase lead of the current supply phase with respect to a rotation phase of the rotor
in accordance with a rotation speed of the rotor;

~~The motor control apparatus according to claim 1,~~ wherein the control means includes:
first current supply phase setting means for setting a current supply phase on the basis of the encoder count in synchronism with pulses of the pulse signal of the encoder during a drive control on the motor; and
second current supply phase setting means for setting a current supply phase on the basis of the encoder count in a prescribed cycle until the rotor is rotated to the target position,
wherein the control means corrects the phase lead of the current supply phase in accordance with the rotation speed of the rotor when each of the first and second current supply phase setting means sets the current supply phase.

5. (original) The motor control apparatus according to claim 1, wherein the motor is a switched reluctance motor.

6. (original) The motor control apparatus according to claim 1, wherein the motor drives a position switching mechanism for switching a gear shift position of an automatic transmission of a vehicle.

7.-14. (canceled)

15. (new) A motor control apparatus comprising:
a motor having a rotor;
an encoder for producing a pulse signal in synchronism with rotation of the rotor of the motor that rotates a control object; and
a controller for rotating the rotor to a target position by detecting a rotation position of the rotor on the basis of a count of the pulse signal counted by an encoder count by the encoder and sequentially switching a current supply phase of the motor,
wherein the controller corrects, in a period when a deceleration control is performed on the rotor, a phase lead of the current supply phase with respect to a rotation phase of the rotor in accordance with a rotation speed of the rotor to thereby control generation of a braking force acting electromagnetically on the rotor to decelerate the rotor.

16. (new) The motor control apparatus according to claim 15, wherein the controller corrects, in the period when the deceleration control is performed on the rotor, the phase lead of the current supply phase in such a direction that the braking force acting electromagnetically on the rotor is weakened as the rotation speed of the rotor lowers.

17. (new) The motor control apparatus according to claim 15, wherein the controller corrects, in the period when the deceleration control is performed on the rotor, the phase lead of the current supply phase taking into consideration, in addition to the rotation speed of the rotor, a rotation angle of the rotor from a present position to the target position.

18. (new) The motor control apparatus according to claim 15, wherein the controller includes:

first current supply phase setter for setting a current supply phase on the basis of the encoder count in synchronism with pulses of the pulse signal of the encoder during a drive control on the motor; and

second current supply phase setter for setting a current supply phase on the basis of the encoder count in a prescribed cycle until the rotor is rotated to the target position,

wherein the controller corrects the phase lead of the current supply phase in accordance with the rotation speed of the rotor when each of the first and second current supply phase setter sets the current supply phase.

19. (new) The motor control apparatus according to claim 15, wherein the motor is a switched reluctance motor.

20. (new) The motor control apparatus according to claim 15, wherein the motor drives a position switching mechanism for switching gear shift position of an automatic transmission of a vehicle.